ENVIRONMENTAL PROTECTION AGENCY

Published November 25, 1992, Page 55620

40 CFR Part 52

State Implementation Plans; Nitrogen Oxides Supplement to the General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990

AGENCY: Environmental Protection Agency (EPA).

ACTION: Supplement to the General Preamble for future proposed rulemakings.

SUMMARY: The General Preamble for implementation of Title I of the Clean Air Act (CAA) Amendments which was published on April 16, 1992 (57 FR 13498), does not address several new provisions of the amended CAA concerning emissions of nitrogen oxides (NOx). Specifically, the April 16, 1992 General Preamble does not include a discussion of the new NOx provisions with respect to the following topics: reasonably available control technology (RACT), new source review (NSR), interaction of Titles I and IV, ozone transport regions, section 185B report, and section 182(f). The purpose of this NOx supplement to the General Preamble is to provide guidance on implementation of these NOx provisions.

As State plan submittals are received, EPA will publish Federal Register proposals inviting comment on whether the submittals should be approved. Each proposal inviting comment

will state the address and closing date for submittal of comments to the appropriate EPA Regional Office.

FOR FURTHER INFORMATION CONTACT: Mr. Doug Grano, Strategies and Policy Section, Ozone/CO Programs Branch, MD-15, at (919) 541-3292, U.S. EPA, Research Triangle Park, NC 27711.

SUPPLEMENTARY INFORMATION:

Note: In accordance with 1 CFR 5.9(c), this document is published in the Proposed Rules category.

OUTLINE

1. INTRODUCTION

1.1 General Preamble to Title I

Title I of the CAA Amendments of 1990 contains many new and revised requirements for areas that have not attained the national ambient air quality standards (NAAQS) for ozone, carbon monoxide (CO), particulate matter (PM-10), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead. The EPA developed a guidance document, called the General Preamble to Title I, to assist States regarding the interpretation of the various provisions of Title I, as amended. The General Preamble was published April 16, 1992 (57 FR 13498).

The General Preamble principally describes EPA's preliminary views on how EPA should interpret various provisions of Title I, primarily those concerning State implementation plan (SIP) revisions required for nonattainment areas. Although the General Preamble includes various statements that States must take certain actions, these statements are guidance made pursuant to EPA's preliminary interpretations, and thus do not bind the States and the public as a matter of law. In the near future, EPA will (i) begin to take action, pursuant to notice-and-comment rulemaking, on SIP revisions submitted by the States, and (ii) issue rules, pursuant to notice-and-comment rulemaking, on various Title I provisions. During the comment periods for these subsequent actions, members of the public will have the opportunity to comment on the relevant issues.

The EPA's interpretation of the Title I provisions will provide a basis for subsequent EPA approval or disapproval of SIP

submittals concerning NAAQS nonattainment areas. While this Preamble contains guidance on the interpretation of the majority of the Title I SIP requirements, unique circumstances or as yet unrecognized issues are likely to cause case-by-case exceptions to arise. The EPA intends to provide the public with a formal opportunity to comment on the provisions of this Preamble and other issues that may arise during subsequent rulemakings that take action on SIP revisions submitted by the States under Title I and that set out EPA policy on various aspects of Title I.

The General Preamble focuses primarily on the SIP submissions required for nonattainment areas under Part D of the amended CAA. It discusses specific issues concerning the proper interpretation of the Title I requirements for areas designated nonattainment (and, for some pollutants, classified) under Part D, Title I, as well as the proper treatment of nonattainment areas that fall outside of the classification schemes. The General Preamble discusses requirements for the SIP submissions required for ozone, CO, PM-10, SO_2, NO_2, and lead nonattainment areas. In addition, the Preamble discusses interpretation issues that have arisen concerning redesignations to attainment, some general SIP requirements, and EPA action on SIP submissions, as well as the various types of possible State failures to meet certain requirements and the consequent sanctions and Federal implementation plans (FIPs).

The General Preamble also sets forth EPA's interpretation of the various provisions in the amended Act which change NSR requirements for new and modified sources in nonattainment areas. The discussion includes EPA's intended interpretation of the minimum changes all States must make in their SIPs in order to comply with the amended NSR requirements and the deadlines for making these changes.

The EPA encourages States to refer to the General Preamble as their SIPs are revised to meet the CAA requirements.

1.2 Supplement to the General Preamble to Title I

The General Preamble published on April 16, 1992 does not address several new provisions of the amended CAA concerning emissions of oxides of nitrogen (NOx). Specifically, the General Preamble does not include a discussion of the new NOx provisions with respect to the following topics: RACT, NSR, interaction of Titles I and IV, ozone transport regions, section 185B report, and section 182(f). The purpose of this supplement to the General Preamble to Title I is to provide guidance on implementation of these NOx provisions.

1.3 New NOx Requirements

Section 182(f) requires States to apply the same requirements to major stationary sources of NO_X as are applied to major stationary sources of volatile organic compounds (VOC). As described in sections 3 and 4 of this document, the new NOx requirements are RACT and NSR for major stationary sources in

certain ozone nonattainment areas and throughout any ozone transport region.

The RACT requirements are in section 182(b)(2). The NSR requirements are in section 182(a)(2)(C) and in other provisions in section 182. The RACT and NSR requirements for major sources in attainment/unclassified portions of ozone transport regions originate in section 184(b)(2).

1.4 NOX for VOC Substitution

Under section 182(c)(2)(C), NO_X Control, the Administrator must issue guidance concerning the conditions under which NO_X control may be substituted for the VOC control required to meet the post-1996 VOC emissions reductions progress requirements or may be combined with VOC control in order to maximize the reduction in ozone air pollution for purposes of meeting those requirements. In order to substitute NO_X reductions for VOC, the State must demonstrate to EPA, consistent with the EPA guidance, that the NO_X reductions would result in reductions in ambient ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions otherwise required.

In accordance with guidance to be issued by EPA, a State may demonstrate to the Administrator that the NO_X substitution is justified. The EPA will make a formal determination on any State request when the Administrator approves a plan or plan revision. The EPA's decision will be based on the documentation provided by

the State and application of the EPA guidance. The EPA encourages the States to consult with the appropriate EPA Regional Office during the development of the demonstration and plan revision to ensure that any such substitution is approvable and that any required rules can be adopted in a timely manner.

If NO_X reductions are to be substituted for the required post-1996 VOC reductions, the NOx emissions must meet the guidance required under section 182(c)(2)(C) and must meet the same creditability constraints dictated by section 182(b)(1)(C) and (D) as apply to VOC emission reductions.

1.5 Section 185B Report

Under section 185B, the Administrator, in conjunction with the National Academy of Sciences, is to conduct a study on the role of ozone precursors in tropospheric ozone formation. The study must examine the role of NO_X and VOC emission reductions, the extent to which NO_X reductions may contribute (or be counter-productive) to achieving attainment in different nonattainment areas, the sensitivity of ozone to the control of NO_X, the availability and extent of controls for NO_X, the role of biogenic VOC emissions, and the basic information required for air quality models.

A draft version of the section 185B report is to be made available for a 30-day public comment period, and a final report submitted to Congress. The EPA is to use all available information as well as develop additional information in

conducting the study. The National Research Council announced the completion of the NAS portion of this report on December 13, 1991. The section 185B report will include an EPA report addressing the availability and extent of NOx controls. The section 185B report will also provide EPA perspectives on key ozone control strategy issues addressed by the National Research Council, emphasizing the NOx issues as directed by section 185B.

1.6 Section 182(f) Demonstration

Section 182(f) outlines a process and conditions under which the NO_X NSR and RACT requirements would not apply. These provisions are found in section 182(f), paragraphs (1) and (2). Section 6 of this supplement to the General Preamble provides general information regarding the circumstances under which the NSR and RACT NOx requirements would not apply. The EPA is preparing a separate guideline document to further detail these provisions.

1.7 Attainment of the Ozone NAAQS

In certain areas, a State may require NO_X controls more restrictive than those provided by the NSR and RACT provisions under section 182(f). Section 182(b)(1)(A), for example, requires the State to submit a plan that provides for specific annual reductions in emissions of VOC and NOx "as necessary to attain the national primary ambient air quality standard for ozone by the attainment date applicable." The requirement for specific annual reductions would not apply as to NOx reductions

for those areas for which the Administrator determines that additional reductions of NOx would not contribute to attainment [section 182(b)(1)(A)(i)].

2. APPLICABILITY AND DUE DATES FOR NSR AND RACT RULES

2.1 Marginal Ozone Nonattainment Areas

The section 182(f) NO_X provisions for NSR apply to all ozone nonattainment areas with a classification of marginal or higher. The RACT provisions do not apply to marginal ozone nonattainment areas except in ozone transport regions.

Section 182(f), read in conjunction with the section 182(a)(2)(C) and other NSR related provisions in section 182, requires State NSR plans to apply to major stationary sources of NO_X, the same requirements that govern major stationary sources of VOC emissions [as defined in sections 302 and 182(c), (d), and (e)] in ozone nonattainment areas and in other areas located in ozone transport regions. Section 182(a)(2)(C) requires States to adopt and submit revised NSR regulations for all ozone nonattainment areas classified as marginal or above which incorporate (1) the new provisions of the amended CAA and (2) correct existing regulations to incorporate all NSR provisions in effect immediately before the date of enactment. The statutory NSR permit requirements for ozone nonattainment areas are generally contained in the Act under section 172(c)(5), revised section 173, and in various provisions spread throughout

newly enacted Subpart 2 of Part D. These are the minimum requirements that States must include in an approvable SIP.

2.2 Moderate, Serious, Severe and Extreme Ozone Nonattainment Areas

The section 182(f) NOx provisions for NSR and RACT apply in all ozone nonattainment areas classified moderate or higher.

2.3 Ozone Transport Region

The section 182(f) NOx provisions for NSR and RACT apply throughout an ozone transport region. That is, areas designated as attainment/unclassified, as well as ozone nonattainment areas, must meet the NSR and RACT requirements for NOx.

Section 176A allows the Administrator to establish a transport region covering multiple States whenever interstate transport of pollutants contributes significantly to violations of NAAQS. Section 184(a) specifically created at enactment by operation of law an ozone transport region comprising the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia. Section 184(b) contains the specific requirements for States in ozone transport regions. If other ozone transport regions are established under section 176A, States in these regions must also adopt and implement these controls.

Section 184(b)(2) requires major sources of VOC in ozone transport regions to be subject to the same requirements that apply to major sources in ozone areas classified as moderate [section 182(b)]. Thus, the State must adopt rules to apply the NSR and RACT provisions for ozone to major VOC sources Statewide, unless a portion of the State has been excluded from the transport region under section 176(a)(2). Section 182(f) specifies that the Subpart 2 provisions applicable to VOC major sources shall also apply to NO_X major sources. Therefore, section 182(f) requires that the RACT and NSR provisions be applied to major NOx sources throughout the transport region.

2.4 Major Stationary Source

2.4.1 Ozone Nonattainment Areas

Section 182(f) specifies that major stationary sources of NO_X are to be defined according to the definitions in sections 302 and 182(c),(d), and (e). In ozone nonattainment areas these definitions for NOx are the same as for VOC and, as such, vary from 10 to 100 tons per year according to the classification of the ozone nonattainment area. In addition, the same offset ratios that apply to major VOC sources apply to major NOx sources. For further information on these definitions, refer to the April 16, 1992 General Preamble.

2.4.2 Ozone Transport Regions

The EPA believes that the section 184(b)(2) provision providing that a major stationary source is one with a potential

to emit at least 50 tons per year is specifically limited to VOC sources because section 182(f) does not refer to the section 184 definition in describing the major stationary source definitions applicable for NO_X purposes.

For portions of an ozone transport region designated attainment/unclassified, a major stationary NOx source is defined by section 302(j) as 100 tons per year. Therefore, for purposes of applying section 182(f) requirements to NO_X sources in ozone attainment/unclassified areas in the ozone transport region, as well as in marginal and moderate ozone nonattainment areas, a major stationary source for NOx will be defined as any stationary source that emits or has the potential to emit 100 tons per year or more of NO_X.

In the case of serious, severe, or extreme ozone nonattainment areas within the transport region, the lower threshold definitions of major stationary source and other NSR requirements apply to NO_X sources. Also, State rules must ensure that NOx offsets (as with VOC offsets) will be consistent with any State or regional attainment strategies.

2.5 General Due Dates for NSR and RACT Rules

2.5.1 NSR

The amended CAA requires States to adopt SIP revisions subject to EPA approval that incorporate the new preconstruction permitting requirements for new or modified sources that were discussed in the preceding sections. New rules for ozone

nonattainment areas must be submitted by November 15, 1992. The EPA has previously announced its interpretation that the new NSR requirements did not go into effect with passage of the 1990 CAA Amendments, but rather become effective in accordance with the schedule for State adoption of SIP revisions. For further information, refer to the April 16, 1992 General Preamble to Title I, Appendix D.

2.5.2 RACT

Section 182(b)(2) requires submittal of RACT rules for major stationary sources of VOC emissions (not covered by a pre-enactment control techniques guideline (CTG) document or a post-enactment CTG document) by November 15, 1992. There were no NOx CTGs issued before enactment and EPA has not issued a CTG document for any NOx sources since enactment. As discussed in section 2.6.2, States, in their RACT rules, will be expected to require final installation of the actual NOx controls by May 31, 1995 from those sources for which installation by that date is practicable.

2.5.3 Ozone Transport Regions

States within the Northeast ozone transport region established by section 184(a) must revise their SIPs to include the NSR and RACT measures by November 15, 1992. In the case of a State subsequently included in a transport region under section 176A, the measures must be submitted within 9 months of the area's inclusion in a transport region.

Because States in a transport region are generally subject to the moderate area requirements, EPA believes that the schedule for implementing these RACT rules in the ozone transport region should be consistent with the requirements of section 182(b)(2). Therefore, States, in their RACT rules, will be expected to require final installation of the actual NOx controls by May 31, 1995 from those sources for which installation by that date is practicable.

2.6 Alternative Schedules for NOx RACT Rules

2.6.1 Section 110(k) Conditional Approval

Under section 110(k)(4), the Administrator may approve a plan revision based on a commitment by the State to adopt specific enforceable measures by a specified date but not later than 1 year after the date of EPA approval of the plan revision that incorporated that commitment. If EPA finds that the State fails to meet the commitment within that period, the conditional approval would be converted into a disapproval. The time periods culminating in imposition of sanctions and/or Federal implementation plans (FIPs), pursuant to sections 179 and 110(c), respectively, do not begin to run until the conditional approval is converted to a disapproval.

Section 182(f) provides States an opportunity to demonstrate to EPA that some or all of the new NOx requirements should not apply. The EPA has determined that, as a technical matter, photochemical grid modeling is the only reliable tool to justify

an areawide exemption from the NOx requirements (or relaxation of otherwise required NOx reductions). Therefore, States must include in such demonstrations photochemical grid modeling analyses that consider various control strategies with and without NOx reductions. For a variety of ozone nonattainment areas, however, photochemical grid modeling either has not been utilized previously or, if utilized, has not adequately considered the effects of NOx emission reductions. The EPA recognizes that, while efforts to conduct photochemical grid modeling are underway in many States, the time needed to establish and implement a modeling protocol and to interpret the model results will, in a variety of cases, extend beyond the November 15, 1992 deadline for submission of NOx rules.

Because Congress clearly intended to allow States the opportunity to show that they qualify to opt out of (or specifically tailor) the new NOx requirements and because modeling is necessary to reliably determine whether NOx emission reductions will contribute or be counterproductive to achievement of ozone attainment, a State could, as a means of meeting the November 15, 1992 deadline for submittal of NOx RACT rules, submit under section 110(k)(4) a commitment to adopt the NOx RACT rules no later than one year after the date of EPA approval of the commitment. Decisions to grant conditional approval will be made by EPA on a case-by-case basis, and will be limited to instances where the State documents that (1) credible

photochemical grid modeling is not available or did not consider the effects of NOx reductions and (2) the State submits progress reports on the modeling showing the program is on schedule while the committal SIP is being reviewed by EPA. The committal SIP will be disapproved if the modeling activities are not well underway as of the date of EPA final action. The committal SIP must also require the State to adopt NOx RACT rules according to a specific schedule and within one year of EPA approval.

2.6.2 Phase-in of Controls Beyond May 1995

As discussed above, the statute requires the implementation of RACT as expeditiously as practicable but no later than May 31, 1995. Depending on the source category, the number of potentially affected sources ranges from tens to thousands. In the past, NOx controls for older sources were not required on a national scale and, thus, control equipment manufacturers have not supplied NOx controls at the rate needed to meet the May 31, 1995 deadline. It is possible, therefore, that the control equipment will not be available in all cases to meet the demand.

As described in more detail below, if a State demonstrates that installation of all controls by May 31, 1995 is not practicable for all the affected sources, for example, due to equipment unavailability or system reliability, EPA would consider approving rules that define RACT as a phased program extending beyond that date for those sources for which the application of the controls by May 31, 1995 is impractical.

States, in their RACT rules, will be expected to require final installation of the actual NOx controls by May 31, 1995 from those sources for which installation by that date is practicable. For the remaining sources, the rule should define RACT itself as a stage-by-stage program of measures, ranging, perhaps, from preliminary set-up measures in the first year or so to fully installed and operating control equipment as the end-stage. The rule must also include clearly specified compliance milestones that represent the most expeditious schedule practicable toward final compliance. Under this approach, the portion of the schedule that can practically be implemented by May 31, 1995, must be implemented by that date and the other portions of the schedule leading toward (and including) final installation of controls must be implemented as soon as those steps become practicable (and hence will supplement the initial RACT at those later times). Further, given the need for many moderate nonattainment areas to demonstrate attainment by 1996, States should make every effort to ensure that the actual controls for any source which causes or contributes to a moderate area's nonattainment status are installed prior to the 1996 ozone season.

2.7 Section 182(f) Demonstration

The NSR and RACT provisions for NOx described above do not apply in those areas for which the Administrator makes a determination, pursuant to section 182(f)(1) or (2), that all or

some of the NO_X provisions are not required. Refer to section 6 of this document for further information.

3. NEW SOURCE REVIEW

3.1 General NSR Requirements

The NSR requirements are detailed in section III.G of the General Preamble to Title I. The NSR provisions include, but are not limited to, requirements that a new or modified major stationary source will apply controls representing lowest achievable emission rate (LAER) and that the source will obtain an emission offset prior to operation. Unless otherwise noted, the requirements detailed in section III.G of the General Preamble to Title I for major VOC sources must also be applied for major NOx sources.

3.2 NSR in Submarginal Areas

Nonclassified ozone areas consist of transitional, submarginal, and incomplete/no data areas. As described in section III.A.7 of the General Preamble to Title I, all nonattainment areas, including submarginal, transitional and incomplete/no data areas, are required to adopt NSR programs meeting the requirements of section 173 as amended. However, the NO_X requirements of section 182(f) do not apply in these areas for ozone, except in the ozone transport region. This is because section 182(f) applies only to those NOx sources located in areas subject to requirements of subpart 2 of Part D of Title I. That group consists only of sources located in the ozone transport

region per section 184 and in areas classified under Table 1 of section 181(a), which does not include the submarginal and incomplete/no data areas located outside the transport region.

3.3 NSR in Marginal Areas

Marginal areas outside of the ozone transport region that expect to attain by November 1993 might not realize a benefit from NO_X NSR requirements due to the lag time between regulation adoption and implementation within a source. Adoption of NSR rules by November 1992 would provide a 1 year period where new or modified sources would be subject to the rules. In contrast, even with an approved preconstruction permit, construction and startup of major new sources or major modifications may take 1 to 2 years, or more, depending on the complexity and size of the project. Thus, any emission benefit from offsets or avoided emission increases might not be realized until well after the attainment deadline.

As described in section 6 of this supplement to the General Preamble, if specific NO_X reductions do not contribute to attainment, States may request an exemption from the NO_X requirements under the section 182(f)(2) excess reductions provision. However, if these areas obtain such an exemption based on the limited effect of NO_x reductions between 1992 and 1993, but then do not attain by the end of 1993, these areas would then be subject to the nonattainment NSR requirements of

the CAA and would need a pre-construction permitting program to meet these requirements.

Alternatively, States could apply the full range of NSR requirements to prospective new or modified major sources for which complete permit applications are submitted after November 15, 1992. Because of the lead time involved, it is unlikely that many such sources will have received permits and made substantial investments in LAER controls prior to the November 1993 marginal area attainment date. At that time, if the area has achieved attainment and meets EPA redesignation criteria, the State could request redesignation and, following approval, the State permit program could be revised to delete any superfluous requirements.

3.4 VOC and NOx Emissions

The EPA finds nothing in the statutory language to suggest that emissions of VOC and NO_X are to be added together for Part D NSR applicability purposes. That is, VOCs and NO_X are to be considered separately for purposes of determining whether a source is subject to the permit requirements.

3.5 Prevention of Significant Deterioration (PSD)

Because NOx emissions also contribute to ambient concentrations of nitrogen dioxide, for which a NAAQS has been set, the PSD provisions of Part C apply to major stationary sources of NOx in all areas designated attainment or unclassifiable for nitrogen dioxide. Further, as described in section 3 of this supplement, NOx NSR is required in certain

ozone nonattainment areas and the ozone transport region. In many areas, both the nonattainment NSR and the PSD requirements apply. The major stationary source thresholds defined in the PSD rules continue to apply when determining PSD applicability. Where a source must meet both the LAER and Best Available Control Technology (BACT) requirements for NOx, the more stringent LAER requirement satisfies the BACT requirement.

3.6 NSR Offset Commitment

Some sources have expressed the concern that the delay in adopting RACT rules for utility boilers and other stationary sources may hinder efforts by new or modifying NOx sources to secure offsets. Their fear is that the uncertainty over the eventual RACT limit may lead existing NOx stationary sources--the easiest source of offsetting credits--to retain for their own use otherwise surplus NOx emissions reductions. Thus, until RACT levels are established, there may be a scarcity of NOx offsets available to fund growth in these nonattainment areas. For this reason, EPA will approve NSR SIP revisions which require NOx offsets for new and modifying sources in ozone nonattainment areas, but which allow sources to secure the offset at any time up until the source commences operation. By delaying the offset requirement through the construction period, States will allow sources more time to secure offsets and, thus, enabling sources to wait out any initial uncertainties with the NOx emissions reduction market.

Under existing EPA policy, sources must identify and secure offsetting emissions reductions as a condition for receiving a new source review preconstruction permit. See 40 CRF 51.165, Appendix S. Most States have incorporated this requirement into their nonattainment preconstruction review program by requiring the offset to be in effect and secured by a federally enforceable permit condition prior to the issuance of the permit to construct the modification or new source. However, the amended CAA is not so restrictive. Section 173(a) states that offsetting emissions reductions must be "federally enforceable before [the NSR] permit may be issued." However, both sections 173(a)(1) and (c) explicitly state that the offsetting emissions reductions only need to be in effect by the time a new or modified source "commences operation." If States wish to take advantage of this statutory language and issue permits to sources on the basis of an enforceable commitment to secure the offset by the time the source is ready to commence operations, EPA will not object. However, EPA will require that permits issued in this manner contain federally enforceable provisions that expressly prohibit the commencement of any actual operations until such time as the necessary offsetting emissions reductions have been identified, approved, and secured with appropriate permit restrictions on the source providing the restriction.

4. REASONABLY AVAILABLE CONTROL TECHNOLOGY

4.1 Background

On a nationwide basis, stationary source NOx emissions originate primarily from four types of sources: utility boilers, gas turbines, internal combustion engines, and industrial boilers. Approximately 85 percent of stationary source NO_X emissions are accounted for by these sources, with utility boilers contributing almost 60 percent of the total stationary source emissions. Other source categories can be important in individual areas.

Section 182(b) refers to CTGs and CTG documents that have been or will be developed to assist in the determination of RACT for several categories of VOC sources. However, neither CTG documents nor CTGs themselves have been issued for NO_X sources and the CAA does not require NO_X CTGs.

4.2 General Definition of RACT

The EPA has defined RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility (44 FR 53762; September 17, 1979). Although EPA historically has recommended source-category-wide presumptive RACT limits, and plans to continue that practice, decisions on RACT may be made on a case-by-case basis, considering the technological and economic circumstances of the individual source. The EPA will make data from NO_X RACT determinations available through a clearinghouse required by section 108(h).

RACT may require technology that has been applied to similar, but not necessarily identical, source categories. Presumptive RACT limits are based on capabilities which are general to an industry, but may not be attainable at every facility.

An extensive research and development program should not be necessary before a RACT control technology can be applied to a source. This does not, however, preclude requiring a short-term evaluation program to permit the application of a given technology to a particular source.

4.3 Relation to ACTs

Section 183(c) requires the Administrator to issue alternative control technique documents (ACTs) by November 1993 that identify alternative controls for all categories of stationary sources of VOCs and NO_X that emit more than 25 tons per year. Through the ACT documents, EPA will provide information on the full range of NO_X control technologies for categories of stationary sources that emit or have the potential to emit 25 tons per year or more of NO_X.

Similar to the CTGs issued for VOC source categories, the ACTs will contain extensive background information on control technologies, costs, availability, etc., that can be used by States in making RACT determinations. However, unlike the CTGs, the ACTs will not establish a presumptive RACT.

4.4 Relation to Title IV

Coal-fired utility boilers located in nonattainment areas must meet the NOx RACT requirements of section 182(f), as well as any other applicable requirements of Title I of the Act, and the NOx requirements of section 407 under the acid rain program in Title IV of the Act. The NOx RACT requirements for certain electric utility boilers are discussed in section 4.6 of this document. As required under section 407, EPA will promulgate regulations to limit emissions from coal-fired boilers. Utilities should plan to meet the most stringent requirements applicable under the Act.

4.5 Relation to VOC RACT Policies

Over the last 15 years, EPA has provided guidance on what constitutes RACT for stationary sources. During these years considerable information and definitions have been provided by EPA concerning RACT. While this guidance has been largely directed at application within the VOC program, much of the guidance is also applicable to RACT for stationary sources of NO_X.

4.6 RACT for Certain Electric Utility Boilers

The EPA has determined that, in the majority of cases, RACT will result in an overall level of control equivalent to the following maximum allowable emission rates (pounds of NOx per million Btu) for utility boilers:

(a) 0.45 for tangentially fired, coal burning;

(b) 0.50 for dry bottom wall fired (other than cell burner), coal burning;

(c) 0.20 for tangentially fired, gas/oil burning; and

(d) 0.30 for wall fired, gas/oil burning;

Compliance with these limits may be determined on a continuous basis through the use of a 30 day rolling average emission rate, calculated each operating day as the average of all hourly data for the preceding 30 operating days. As described below, EPA believes that the above emission rates are appropriate for application to groups of boilers on an areawide average, Btu-weighted basis.

The EPA expects States, to the extent practicable, to demonstrate that the variety of emissions controls adopted are consistent with the most effective level of combustion modification reasonably available for its individual affected sources. However, EPA encourages States to structure their RACT requirements to inherently incorporate an emissions averaging concept (i.e., installing more stringent controls on some units in exchange for lesser control on others). Therefore, in the interests of simplifying State RACT determinations and enhancing the ability of States to adopt market-based trading systems for NOx, the State may allow individual owners/operators in the nonattainment area (or, alternatively, Statewide within an ozone transport region) to have emission limits which result in greater

or lesser emission reductions so long as the areawide average emission rates described above are met on a Btu-weighted basis.

In general, EPA considers RACT for utilities to be the most effective level of combustion modification reasonably available to an individual unit. This implies low NOx burners, in some cases with overfire air and in other instances without overfire air; flue gas recirculation; and conceivably some situations with no control at all. The actual NOx emission reduction that can be achieved on a specific boiler depends on a number of site-specific factors including, but not limited to, furnace dimensions and operating characteristics, fuel type and characteristics, design and condition of burner controls, design and condition of stream control systems, and fan capacity. The combustion modification technology must be custom-designed for each boiler application. The ease of retrofitting varies substantially from one boiler to another. Combustion modifications may also include: low excess air, biased burner firing, burners out of service, reduced air preheat, and steam/water injection.

4.7 RACT for Other Utility Boilers and Source Categories

For source categories and utility boilers other than the electric utility boilers specified above, EPA is not recommending a specific RACT level in this document. In general, EPA expects that NOx RACT for these other sources will be set at levels that are comparable to the RACT guidance specified above for certain

electric utility boilers. Comparability shall be determined on the basis of several factors including, for example, cost, cost-effectiveness, and emission reductions.

4.8 Enforceability

The SIP measures must be converted into a legally-enforceable vehicle (e.g., a regulation). The regulations or other measures must meet EPA's criteria regarding the enforceability of SIPs and SIP revisions. Guidance on enforceability requirements has been provided to Regional Offices in various memoranda (see Bauman/Biondi and Potter/Adams/Blake memoranda listed in Section III.D.6. of the General Preamble to Title I).

In cases where States adopt an areawide averaging rule for a group of sources, the emission limits, emission quantification methods, and monitoring and recordkeeping requirements applicable to each owner/operator in the group must be clearly specified. In addition, the rule must specify appropriate penalties for violation of the various requirements.

5. EMISSIONS TRADING AND ECONOMIC INCENTIVE PROGRAMS

5.1 Emission Trading Policy Statement

Since 1976 EPA has developed several emissions trading programs to allow industry and States more flexibility in meeting statutory requirements of the Clean Air Act. The bubble, offset, netting and banking programs, discussed in EPA's Emissions Trading Policy Statement (ETPS) (51 FEDERAL REGISTER (FR) 43812,

December 4, 1986) each entail the creation, storage and/or use of emission reduction credits. Only emission reductions which are surplus, quantifiable, federally enforceable, and permanent may be used in an emissions trade.

5.2 Economic Incentive Programs

The EPA encourages the development of economic incentive programs (EIPs) that increase flexibility and stimulate the use of more cost-effective control strategies while providing incentives to develop and implement innovative emission reduction technology and strategies beyond those specifically mandated through standards and regulations. The use of economic incentives is explicitly allowed for in the general SIP requirements (section 110[a][2][A]), the general provisions for nonattainment SIPs (section 172[c][6]), and the system of regulations for controlling emissions from consumer and commercial products (section 183[e][4]). Beyond these general authorities, the use or consideration of an economic incentive program is mandated in certain cases. Section 182(g) of the CAA calls for EPA to publish economic incentive rules for mandatory EIPs by November 15, 1992.

It is expected that the EIP rules (which will also serve as EPA's guidance for discretionary programs) will be broadly applicable to any type of EIP, and will provide flexibility to States in the development of market-based, innovative programs for stationary, area, and mobile sources. The EIP rules will

require EIPs submitted by States to EPA for approval as part of a SIP to contain design features that will ensure that (1) emissions reductions credited to the program will be quantifiable and consistent with SIP attainment and reasonable further progress demonstrations, as applicable; (2) any credited emissions reductions will be surplus to reductions required by, and credited to, other implementation plan provisions to avoid double counting of reductions; (3) programs are federally enforceable and credited reductions will be permanent within the timeframe specified within the program; and (4) no interference with other requirements of the CAA will occur. The proposed rules will identify key program provisions which must generally be included to ensure that the above requirements will be met. However, it is not expected that the rules will limit flexibility and innovation beyond those constraints that are necessary to meet these requirements.

5.3 Geographic Limitations

Offset programs should be subject to the geographic limitations contained in section 173(c)(1) for new or modified major stationary sources. Section 173(c)(1) stipulates that emissions offsets generally must be obtained by the same source or other existing sources in the same nonattainment area. However, the statutory provision does allow offsets to be obtained in another nonattainment area under two specific conditions.

First, the other nonattainment area must have an equal or higher nonattainment classification than the nonattainment area in which the source would construct. In applying this provision, the other nonattainment area must have an equal or higher nonattainment classification for the same pollutant. For example, a proposed major new source of NOx seeking to locate in a nonattainment area classified as Serious for ozone could possibly obtain emission offsets in another ozone nonattainment area if such area were classified Serious, Severe or Extreme for ozone.

The second condition is that the emissions from such other nonattainment area must contribute to a violation of the NAAQS in the nonattainment area in which the source would construct. The showing that such contribution from sources in another nonattainment area exists should be acknowledged and verified by the permitting authority.

5.4 Relation to Title IV Required Reductions

Section 407 of Title IV of the Clean Air Act requires the EPA to establish annual average NOx emission limits for certain electric utility boilers and allows the averaging of emissions between affected boilers in order to meet the emission limits as a group. NOx emission reductions at these utilities which result from the Title I program may be used for purposes of meeting the Title IV NOx requirements. Further, as discussed below, NOx emission reductions resulting from the Title IV program may be

considered for purposes of meeting certain Title I requirements, under appropriate conditions.

To receive Title I SIP credit for use under an EIP or for purposes of banking, bubbling, or netting, emission reductions from the Title IV program must be surplus to the Title I requirements, enforceable, quantifiable, and permanent. Only those Title IV emission reductions that exceed any applicable Title I requirements (e.g., RACT) would be surplus. To be enforceable for Title I purposes, the Title IV emission reductions must be part of an approved SIP or federally enforceable operating permit. To be quantifiable for Title I purposes, emission reductions must be measurable or predictable on a timeframe appropriate for the purposes of Title I, generally one hour or twenty-four hour levels on a typical high ozone day. Emission reductions at Title IV boilers which are part of an approved Title IV averaging group are creditable for purposes of banking, bubbling or netting under Title I only to the extent that the emissions reductions at any boiler, subgroup of boilers or the entire group of boilers are surplus to their individual and combined Title I emission limitations, enforceable, quantifiable and permanent and take place in a single attainment or nonattainment area.

For purposes of establishing emission offset credits, additional requirements apply. Section 173(c)(2) states that "Emission reductions otherwise required by this Act shall not be

creditable as emissions reductions for purposes of any such offset requirement." This condition prevents emission reductions otherwise required by the Act from being credited for purposes of satisfying the Part D NSR offset requirement. For example, reductions required to meet MACT or acid rain limitations pursuant to statutory requirements are not creditable for NSR emissions offsets.

The statutory language does allow reductions that are achieved indirectly pursuant to a requirement of the CAA (incidental emission reductions), as well as other reductions which exceed requirements of the CAA, to be credited if they meet the other criteria for offsets. Thus, reductions achieved that exceed the requirements of both Title IV and any applicable Title I requirements are creditable for purposes of offsets. Emission reductions at Title IV boilers which are part of an approved Title IV averaging group are creditable for purposes of offsets under Title I only to the extent that the emissions reductions at any boiler, subgroup of boilers or the entire group of boilers are enforceable, quantifiable and permanent; are surplus to their individual and combined Title I and Title IV emission limitations; and take place in a single attainment area (within an ozone transport region) or a single nonattainment area. Such emissions reductions may be considered as creditable reductions if all other conditions for a creditable offset are met.

6. SECTION 182(f) APPLICABILITY GUIDANCE

6.1 Background

Section 182(f)(1) states that the new NOx requirements shall not apply where any of the following tests is met:

(1) in any area, the net air quality benefits are greater without NO_X reductions from the sources concerned;

(2) in a nontransport region, additional NO_X reductions would not contribute to ozone attainment in the nonattainment area; or

(3) in a transport region, additional NO_X reductions would not produce net ozone benefits in the transport region.

In addition, section 182(f)(2) states that the application of the new NOx requirements may be limited to the extent necessary to avoid excess reductions of NOx.

6.2 Administrative Procedures

A State may demonstrate to the Administrator that the new NOx requirements should not apply. The State's demonstration is not required to be a SIP revision itself. However, the demonstration should accompany a SIP revision that addresses the NOx requirements of section 182(f). The EPA will accept or reject the demonstration as part of the rulemaking process on the accompanying SIP revision.

The EPA's decision will be based on the demonstration provided by the State and application of the guidance contained in the relevant EPA document. The EPA encourages the States to consult with the appropriate EPA Regional Office during the

development of the documentation and plan revision. This is necessary to ensure that the documentation provided by the State is likely to be approved and that any required rules can be adopted in a timely manner.

Section 182(f)(3) also provides that a person (including a State) may petition the Administrator for a NO_X exemption at any time after the final section 185B report is submitted to Congress. The petition may be made with respect to any nonattainment area or any portion of an ozone transport region. The EPA is required to grant or deny a petition within 6 months. The EPA's decision will be based on the documentation provided by the petitioner, the State's recommendation, and application of the EPA guidance. The EPA does not intend to delegate this authority to the States.

As noted above, the petitions may be submitted to EPA after the final section 185B report is sent to Congress. The section 185B report must be prepared by EPA, in conjunction with the National Academy of Sciences, and was mandated by Congress in order to improve understanding of many aspects of the roles of NOx and VOC in ozone formation. Section 182(f) requires EPA, in its review of a petition, to "consider the study required under section 185B." Thus, the petition opportunity is linked to consideration of a portion of the section 185B study. EPA is preparing a separate guidance document to specifically describe acceptable methods to demonstrate cases where an exemption from

the NOx requirements is appropriate (exemption guidance). The exemption guidance includes consideration of the National Academy of Sciences portion of the section 185B study. Further, in formulating the exemption guidance, EPA will address relevant issues that are being examined in the section 185B study, in particular, the extent to which NOx reductions may contribute (or be counterproductive) to achievement of attainment in different ozone nonattainment areas.

While the amended CAA provides a person the opportunity to petition EPA under section 182(f)(3) after EPA submits the section 185B report to Congress, the statute also mandated the submittal of the report to Congress by February 15, 1992. In this sequence of events, Congress clearly intended that petitions could be submitted to EPA well before the November 15, 1992 statutory deadline for adoption of the NOx rules by States. In fact, the report was not provided to Congress within the intended timeframe and, therefore, major stationary sources could be subject to the NOx rules without an opportunity to demonstrate through the petition process that the rules should not apply. EPA does not believe that Congress intended this result. In any event, section 182(f)(3) indicates that the Administrator may consider and act on petitions after submission of the section 185B report to Congress. That language prescribes a specific time after which the Administrator must make the required petition determinations. However, nothing in that section

expressly prohibits the Administrator from exercising his discretion and considering a petition prior to submission of the report to Congress, so long as the Agency considers, in its review of the petition, the relevant issues examined by the section 185B study. Therefore, EPA has decided to act, within 6 months of receipt, on any petition under section 182(f)(3) that is received after the issuance of EPA's exemption guidance. In light of these unforeseen circumstances, EPA believes this solution best implements what Congress originally intended.

Since there may be multiple petitions for a given area and the SIP is primarily a State responsibility, a copy of any petition (other than from the State itself) should be provided to the State at the same time it is submitted to the Administrator. The EPA will provide the State a 3-month period to provide a recommendation to EPA regarding the area. This 3-month period runs concurrent with the required 6-month period noted above. A copy of the petition should also be submitted to the relevant EPA Regional Office and EPA's Office of Air Quality Planning and Standards.

The EPA encourages any petitioner to consult with the State air quality agency and the appropriate EPA Regional Office during the development of a section 182(f) demonstration. This is necessary to ensure that the documentation provided (1) meets EPA guidance, (2) does not conflict with similar analyses by the State, and (3) is likely to be accepted by the State and EPA.

The EPA's decision would be based on the demonstration provided by the petitioner, the State's recommendation, and application of EPA guidance.

If EPA grants a petition, some or all of these Title I NO_X requirements would no longer apply. However, States remain free to impose NO_X restrictions on other bases. For example, States may choose in certain circumstances to reduce NO_X emissions for purposes of ozone maintenance planning, visibility protection, PM-10 control, acid deposition control or other environmental protection. If, however, the EPA finds that NO_X reductions are counterproductive to the extent that, for example, they delay ozone attainment, the State would have to justify how the SIP continues to be adequate for achieving ozone attainment given its NO_X reductions. That is because the statute does not permit EPA to approve a SIP revision that would "interfere with" meeting any requirement of the Act (section 110[l]).

6.3 Ozone Transport Region Attainment/Unclassified Areas

The Act does not clearly state whether or not portions of a transport region that are attainment/unclassified can opt-out of the NO_X requirements. The section 182(f)(1)(B) exemption provision specifically applies only to nonattainment areas within a transport region. The section 182(f)(1) net air quality benefit test is available to any area; however, it is a high hurdle and this is especially true in rural areas. Thus, while a severely polluted area might be able to avoid NO_X reductions, the

Act could be interpreted to require NO_X reductions in the surrounding attainment area.

An alternative reading of the Act can be found under section 184(b)(2). This provision states that the attainment/ unclassified portions of the transport region must meet "the requirements which would be applicable to major stationary sources if the area were classified as a moderate nonattainment area." Thus, the Act could be interpreted to provide the same section 182(f)(1)(B) exemption process for these attainment/ unclassified areas, since they would be treated as moderate nonattainment.

It is unlikely that Congress intended more stringent requirements for the attainment/unclassified portions of an ozone transport region than would apply to the more severely polluted portions. Therefore, EPA interprets the section 182(f)(1)(B) provision to apply to any portion of an ozone transport region.

6.4 Relation to the SIP

Where a petition for an exemption (section 182[f][1]) or excess reductions determination (section 182[f][2]) is granted by EPA prior to adoption and submittal of the State's rules, the State may simply choose not to submit the rules. If a petition is granted after submittal of the rules, but prior to EPA approval, the State may choose to withdraw the rules and preclude further EPA action. In a case where a petition is granted ("exempted area") after EPA approves of the NO_X rules, the SIP

would need to be modified to rescind the NO_X rules. In an exempted area, the NOx RACT and/or NSR rules may be rescinded at any time through a SIP revision, provided such rescission would not interfere with attainment or reasonable further progress (section 110[l]).

Following application of a photochemical grid model that is required for serious and above areas to support the attainment demonstrations due by November 1994, a State must select and adopt a control strategy that provides for attainment as expeditiously as practicable, but no later than the date prescribed in section 181. This decision must be addressed by a State whether or not an area was exempted from the November 1992 submittal of NO_X RACT and/or NSR rules and may result in revision of the previously adopted rules. In some instances the NO_X RACT and NSR requirements already adopted may need to be supplemented with additional or more advanced NO_X controls in order for the area to attain the NAAQS.

In other cases, an area initially exempted may choose, based on the new photochemical grid modeling results, to adopt certain NO_X reduction rules in order to attain and/or meet reasonable further progress requirements through NO_X substitution. The area would be removed from "exempt" status since NOx reductions were subsequently found to be beneficial in their ozone attainment plan. Consequently, the area would have to adopt the NO_X RACT and NSR rules except to the extent modeling shows that the

controls beyond those chosen are "excess reductions." Credit for NO_X substitution would be granted only if in accordance with the EPA guidance. In any event, these changes must be submitted as a SIP revision and must provide for attainment as expeditiously as practicable and meet reasonable further progress requirements.

Alternatively, for an area that adopted the NO_X RACT and NSR rules as required by section 182 (i.e., not exempt), a State may choose to revise some or all of those rules to require less NO_X stationary source controls. This action would be based on the application of a photochemical grid model showing that the subject NO_X controls result in excess emission reductions, as determined using the section 182(f) tests set forth at the beginning of this section. The revisions must be submitted as a SIP revision and the SIP must demonstrate attainment as expeditiously as practicable.

7. CONTROL TECHNOLOGY INFORMATION

7.1 Alternative Control Technique (ACT) Documents

Section 183(c) requires the Administrator to issue ACT documents by November 1993 that identify alternative controls for all categories of stationary sources of VOCs and NO_X that emit more than 25 tons per year. Through the ACT documents, EPA will provide information on the full range of NO_X control technologies for categories of stationary sources that emit or have the potential to emit 25 tons per year or more of NO_X. While the ACT documents will not contain presumptive RACT emission limits, they

will contain extensive background information on control technologies, costs, etc., that can be used by States in making RACT determinations. The EPA will issue ACT documents for specific source categories as they are completed.

7.2 Section 185B Report

The report required by section 185B will include information on the availability and extent of controls for NO_X.

7.3 Section 108(h) Clearinghouse

Under section 173(d), the States must provide that the control technology information from permits issued under section 173 be promptly submitted to EPA's RACT/BACT/LAER clearinghouse, to other States, and to the general public.

8. NOx REDUCTIONS NEEDED TO ATTAIN THE OZONE NAAQS

8.1 Attainment Demonstration

As described in Sections III.A.3 and III.A.4 of the General Preamble to Title I, States must provide a SIP for moderate and above classified ozone nonattainment areas that includes specific annual reductions in VOC and NOx emissions as necessary to attain the NAAQS. This requirement supplements the RACT and NSR requirements described above. The requirement for specific annual reductions would not apply as to NOx reductions for those areas for which the Administrator determines that additional reductions of NOx would not contribute to attainment [section 182(b)(1)(A)(i)].

8.2 Advanced Control Technologies

In certain areas, States may require NO_X controls based on advanced control technologies; i.e., control technologies that reduce emissions beyond RACT or Title IV requirements. For example, advanced controls would be required as part of a serious ozone nonattainment area's 1994 SIP if modeling found such controls to be necessary to provide for expeditious attainment of the ozone NAAQS. In order to avoid or minimize potentially incremental or repetitive control requirements, States and regulated sources should consider in advance the implications of all relevant requirements.

8.3 Transported Pollutants

In developing their control strategies, States need to consider the transport of pollutants into downwind areas and resultant impacts on the ability of such areas to attain the ozone NAAQS as required. For further discussion of this issue, refer to the General Preamble published April 16, 1992.

9. OTHER NOx RELATED PROVISIONS IN TITLE I

9.1 Contingency Measures

The contingency measures for serious and above ozone nonattainment areas are required by section 182(c)(9) to be adequate to correct any shortfall in meeting an emission reduction milestone (e.g., the 15 percent reduction required by late 1996). If the strategy for an area relies on NOx reductions in addition to VOC reductions, the State should also submit NOx

contingency measures. These measures are described in Section III.A.2.c. of the General Preamble to Title I.

9.2 Rule Effectiveness

The same criteria apply for NOx as for VOC. Refer to Section III.A.3.(a)(4) of the General Preamble to Title I.

10. OTHER REQUIREMENTS

10.1 Executive Order 12291

Under Executive Order 12291, EPA is required to judge whether an action is "major" and, therefore, subject to the requirement of a regulatory impact analysis. The Agency has determined that this action is exempt from classification as "major" because it is a compilation of interpretive rule and general statements of policy as defined in the Administrative Procedure Act (APA).

10.2 Regulatory Flexibility Act

Whenever the Agency is required by section 553 of the APA or any other law to publish general notice and proposed rulemaking for any proposed rule, the Agency shall propose and make available for public comment an initial regulatory flexibility analysis. The regulatory flexibility requirements do not apply for the NOx Supplement to the General Preamble because it is not a regulatory action in the context of the APA or the Regulatory Flexibility Act.

Dated:

William K. Reilly,

Administrator.